

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A susceptor system for an apparatus of the type adapted to treat substrates and/or wafers, the susceptor system being provided with a cavity (1) which acts as a chamber for the treatment of the substrates and/or wafers and which extends in a longitudinal direction and is delimited by an upper wall (2), by a lower wall (3), by a right-hand side wall (4), and by a left-hand side wall (5), the upper wall (2) being constituted by at least one piece of electrically conducting material suitable for being heated by electromagnetic induction, the lower wall (3) being constituted by at least one piece of electrically conducting material suitable for being heated by electromagnetic induction, the right-hand side wall (4) being constituted by at least one piece of inert, refractory and electrically insulating material and preventing conduction of electrical current there through, the left-hand side wall (5) being constituted by at least one piece of inert, refractory and electrically insulating material and preventing conduction of electrical current there through, said inert, refractory and electrically insulating material being silicon carbide or boron nitride, the right-hand side wall (4) and the left-hand side wall (5) each separating the upper wall (2) from the lower wall (3) so that the or each piece of the upper wall (2) is electrically insulated from the or each piece of the lower wall (3), the walls (2, 3, 4, 5) being included in the susceptor system.

2. (Currently Amended) A susceptor system according to Claim 1 in which each of the right-hand wall (4) and the left-hand wall (5) walls (2, 3, 4, 5) is constituted by a single piece.

3. (Previously Presented) A susceptor system according to Claim 1 in which the or each piece of the upper wall (2) and of the lower wall (3) is made of graphite or similar electrically conducting material and is coated with a layer of silicon, tantalum, niobium, or boron carbide, or of silicon, boron, or aluminum nitride, or of similar inert and refractory material, at least in the areas adjacent the cavity (1).

4. (Cancelled)

5. (Previously Presented) A susceptor system according to Claim 1 in which the external shape of the cross-section of the susceptor system is substantially uniform in the longitudinal direction and is substantially circular or elliptical.

6. (Previously Presented) A susceptor system according to Claim 1 in which the shape of the cross-section of the cavity (1) is substantially uniform in the longitudinal direction.

7. (Previously Presented) A susceptor system according to Claim 1 in which the average width of the cavity (1) is at least three times, more preferably at least five times, the average height of the cavity (1).

8. (Previously Presented) A susceptor system according to Claim 1 in which the pieces of the side walls (4, 5) have cross-sections of substantially rectangular or trapezoidal shape.

9. (Previously Presented) A susceptor system according to Claim 1 in which the piece of the upper wall (2) and/or the piece of the lower wall (3) have cross-sections having the external shape substantially of a segment of a circle or a segment of an ellipse.

10. (Previously Presented) A susceptor system according to Claim 1 in which the piece of the upper wall (2) and/or the piece of the lower wall (3) have grooves (22, 32) and/or ribs in the longitudinal direction for joining with the pieces of the side walls (4, 5).

11. (Previously Presented) A susceptor system according to Claim 1 in which the piece of the upper wall (2) and/or the piece of the lower wall (3) is hollow so as to have at least one hole (21, 31), preferably a through-hole, which extends in the longitudinal direction.

12. (Previously Presented) A susceptor system according to Claim 1 comprising a slide (6) mounted inside the cavity (1) and suitable for supporting at least one substrate or at least one wafer, the slide (6) being slidable in guided manner in the longitudinal direction.

13. (Previously Presented) A susceptor system according to Claim 12 in which the lower wall (3) has a guide (33) which is suitable for receiving the slide (6) and which extends in the longitudinal direction so that the slide (6) can slide along the guide (33).

14. (Previously Presented) A susceptor system according to Claim 12 in which the slide (6) comprises at least one disc (61) suitable for supporting at least one substrate or at least one wafer, and is provided with a recess (62) suitable for housing the disc (61) rotatably.

15. (Previously Presented) Apparatus of the type adapted to treat substrates and/or wafers, characterized in that it comprises at least one susceptor system (2, 3, 4, 5) according to Claim 1.

16. (Previously Presented) Apparatus according to Claim 15, comprising a first refractory and thermally insulating structure (7) which surrounds the susceptor system (2, 3, 4, 5) and is constituted substantially by a tube of high-porosity graphite or similar material and which extends in the longitudinal direction.

17. (Currently Amended) Apparatus according to Claim 16 in which the first structure (7) tube is divided, in the longitudinal direction, into two half-tubes (71, 72) and the first structure (7) further comprises two elements (73) of refractory, thermally insulating and preferably electrically insulating material which extend in the longitudinal direction and are disposed between the two half-tubes (71, 72).

18. (Currently Amended) Apparatus according to Claim 16 [[15]] comprising a second, hermetic structure (8) suitable for surrounding the first structure (7).

19. (Previously Presented) Apparatus according to Claim 15 comprising electrical conduction means (9) which are suitable for heating the susceptor system by electromagnetic induction and which are wound around the first structure (7) or around the second structure (8).

20. (Previously Presented) Apparatus according to Claims 15 to 19, comprising means for causing at least one gas-flow to flow in at least one through-hole (21, 31) of the susceptor system.

21. (Previously Presented) Apparatus according to any one of Claim 15 characterized in that it is a reactor for the epitaxial growth of silicon carbide or similar material on substrates.

22. (Previously Presented) Apparatus according to Claim 15 characterized in that it is an apparatus for the high-temperature thermal treatment of wafers.

23. (Currently Amended) A susceptor system for an apparatus of the type adapted to treat substrates and/or wafers, the susceptor system being provided with a cavity (1) which acts as a chamber for the treatment of the substrates and/or wafers and which extends in a longitudinal direction and is delimited by an upper wall (2), by a lower wall (3), by a right-hand side wall (4), and by a left-hand side wall (5), the upper wall (2) being constituted by at least one piece of electrically conducting material suitable for being heated by electromagnetic induction, the lower wall (3) being constituted by at least one piece of electrically conducting material suitable for being heated by electromagnetic induction, the right-hand side wall (4) being constituted by at least one piece of inert, refractory and electrically insulating material and preventing conduction of electrical current there through, the left-hand side wall (5) being constituted by at least one piece of inert, refractory and electrically insulating material and preventing conduction of electrical current there through, said inert, refractory and electrically insulating material being silicon carbide or boron nitride; the right-hand side wall (4) and left-hand side wall (5) each separating the upper wall (2) from the lower wall (3) so that the or each piece of the upper wall (2) is electrically insulated from the or each piece of the lower wall (3), the walls (2, 3, 4, 5) being included in the susceptor system, the susceptor system further comprising a first refractory and thermally insulating structure (7) which surrounds the susceptor system (2, 3, 4, 5) and which extends in the longitudinal direction.

24. (New) A susceptor system according to claim 1 in which the or each piece of the side walls (4, 5) is made of one or more of silicon carbide and boron nitride.

25. (New) A susceptor system according to claim 23 in which the or each piece of the side walls (4, 5) is made of one or more of silicon carbide and boron nitride.

26. (New) A susceptor system according to claim 1 in which each of the walls (2, 3, 4, 5) is constituted by a single piece.

27. (New) A susceptor system according to claim 23 in which each of the right-hand wall (4) and the left-hand wall (5) is constituted by a single piece.

28. (New) A susceptor system according to claim 23 in which each of the walls (2, 3, 4, 5) is constituted by a single piece.